APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,395	06/27/2003	David H. Hanes	100201461-1	9366

22879   7590   12/27/2006
HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER
WEINMAN, SEAN M

ART UNIT	PAPER NUMBER
2115	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/27/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment filed on 2 October 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *4/25/2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the amendment filed on 2 October 2006. *Claims 1-25* are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al.

(US Patent No. 5,513,365) in view Herrod (US Patent Application Publication 2003/0065784).

As per claim 1, Cook et al. teaches the claimed invention comprising:

A computer-readable medium *(Fig. 3 – Memory, 530)* having stored thereon an

instruction set to be executed, the instruction set, when executed by a processor, causes the

processor to perform a computer method *(col. 3, lines 30-32)* of:

receiving an input/output (I/O) request formatted in accordance with an application

programming interface (API) *(Fig. 4; and col. 3, lines 47-57)*;

generating an I/O request formatted in accordance with an adapter interface layer *(ref. no.

700 of Fig. 4)*; and submitting the generated I/O request to the adapter interface layer submitting

the generated I/O request to the adapter interface layer *(Fig. 4; and col. 3, lines 58-63)*.

Cook et al. does not teach that the input/output request is formatted with an application-

programming interface unavailable on the computer system. Specifically, Cook et al. teach a

computer-readable medium storing instructions executable by a processor capable of processing

an I/O request in accordance with an API and an adapter interface layer. However, Cook et al.

does not teach the API is not available on the computer system.

Herrod teaches another method of formatting an input/output request based in accordance

with an application-programming interface not available on the computer system. Herrod teaches

the claimed invention comprising receiving an input/output (I/O) request formatted in

accordance with an application-programming interface unavailable on the computer system

(Paragraph [0021]). In summary, Herrod teaches that when an input/output request is received

in an API format unavailable on the computer. Herrod also teaches that the API handles the

request using the available emulators in order for the request to be processed.

It would have been obvious to one ordinary skill in the art to combine the teaching of

Cook et al. and Herrod because they both teach methods of processing an input/output request in

accordance with the application programming interface and adapter interface layer. Herrod

teaches the deficiency of Cook et al. by teaching that the input/output request is formatted in

accordance with an API unavailable on the computer system.

As per claim 4, Cook teaches the computer-readable medium according to Claim 1,

wherein the I/O request is generated according to a pass-through interface of an operating

system, and submitting the generated I/O request to the pass-through interface *(col. 3, lines 51-

57).*

As per claim 7, Cook et al. teaches the computer-readable medium according to Claim 1,

wherein submitting the generated I/O request further comprises conveying the generated I/O

request to a host adapter *(Fig. 4 – Display Adapter).*

As per claim 9, Cook teaches the computer-readable medium according to Claim 1, wherein the instruction set, when executed by the processor, further causes the processor to perform the computer method of:

receiving a return data set formatted in accordance with the adapter interface layer, and translating the return data set into a format compatible with the application programming interface *(col. 3, lines 51-63)*.

As per claim 10, Cook teaches the computer-readable medium according to Claim 1, wherein the translated return data set is conveyed to a client application that generated the received I/O request *(Fig. 4 – 600 / 605 / 610)*.

As per claims 11 – 15, they are directed to a method for processing the I/O request in accordance to a processor executing instructions stored on a computer-readable medium as set forth in claims 1, 7, 9, and 10 above. Since Cook et al. and Herrod teaches the claimed processor which executes instructions to perform a method of an processing I/O request, Cook et al. and Herrod also teaches the claimed method for processing the I/O request in a computer system. A translation layer would inherently be required to convert one set of code to another when communicating between interfaces.

As per claims 16 – 22, they are directed to a computer system for processing the I/O request in accordance to a processor executing instructions stored on a computer-readable medium as set forth in Claims 1, 3, 7, 9, and 10 above. Since Cook et al. and Herrod teaches the claimed processor which executes instructions to perform a method of processing an I/O request, Cook et al. and Herrod also teaches the claimed computer system for processing the I/O request in a computer system.

As per claim 23, it is directed to a method for processing the I/O request in accordance to a processor executing instructions stored on a computer-readable medium as set forth in Claims 1 above. Since Cook et al. and Herrod teaches the claimed processor which executes instructions to perform a method of processing an I/O request, Cook et al. and Herrod also teaches the method for processing the I/O request in a computer system.

Claims 2, 3, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. and Herrod, and further in view of Housel, III (U.S. Patent No. 5,339,421).

As per claim 2, Cook et al. and Herrod teaches the computer-readable medium as applied to Claim 1 above, however, Cook et al. and Herrod does not teach wherein generating the I/O request further comprises parsing one or more field values from a data structure referenced by the received input/output request and inserting the parsed field values into respective fields of a data structure. Specifically, Cook et al. and Herrod teaches a computer-readable medium storing instructions executable by a processor capable of processing an I/O request in accordance with an API and an adapter interface layer. Cook et al. and Herrod fails to teach that generating the I/O request requires parsing of values from a data structure and inserting the parsed values into respective fields of a data structure.

Housel, III teach a computer-readable medium *(memory)* storing instructions executable by a processor to perform a method of parsing values from a data structure in accordance with an API *(Fig. 21; col. 24, lines 2-6; and col. 9, lines 50-52)*. It would have been obvious to one of ordinary skill in the art that once the values have been parsed, they would be inserted into fields of a data structure.

It would have been obvious to one of ordinary skill in the art to combine the teachings of

Cook et al., Herrod and Housel because they both teach a computer-readable medium storing

instructions executable by a processor to perform a computer method in accordance with an API.

House's teaching of data structure allows values in the data structure to be parsed and inserted

into respective fields.

As per claim 3, Cook et al, Herrod and Housel teach parsing and inserting of data

structure values as applied to claim 2 above. Since a request block data structure comprises a

data structure for issuing commands to a peripheral device and Cook discloses use of peripheral

devices *(Fig. 3)*, Cook et al, Herrod and Housel teach the computer-readable medium of claim 3

wherein the data structure is a request block data structure.

As per Claim 24, it is directed to a method for processing the I/O request in accordance to

a processor executing instructions stored on a computer-readable medium as set forth in claims 2

above. Since Cook et al, Herrod and Housel teaches the claimed processor which executes

instructions to perform a method of processing an I/O request, Cook et al, Herrod and Housel

also teaches the method for processing the I/O request in a computer system.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al.and

Herrod as applied to claim 1 above, and further in view of Baker et al. (U.S. Patent No.

5,442,789).

As per claim 5, Cook et al. and Herrod teaches the computer-readable medium as applied

to claim 1 above, however, does not teach that the processor further identifies a command type of

the received I/O request, and having a command type corresponding to the identified command

type. Specifically, Cook et al. and Herrod teaches a processor capable of processing an I/O

request in accordance with an API. Cook et al. and Herrod fails to teach the processor

performing a method of identifying a command type of the received I/O request.

Baker et al. teaches a processor capable of processing an I/O request in accordance with

an API *(col. 25, lines 42)* wherein the processor identifies a command type of the received I/O

request *(col. 25, lines 62-65)*.

It would have been obvious to one of ordinary skill in the art to combine the teachings of

Cook et al., Herrod, and Baker because they both teach a processor capable of processing an I/O

request in accordance with an API. Baker's disclosure further teaches a processor, in accordance

with an API, can identify command types.

As per claim 6, Cook et al., Herrod, and Baker teach the claimed computer-readable

medium as applied to claims 2 and 5 above.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. and

Herrod in view of what is commonly known in the art.

As per claim 8, it would have been obvious to one of ordinary skill in the art that the

computer-readable medium according to claim 7 comprises conveying the generated I/O request

to a small computer system interface (SCSI) host adapter. This would have been obvious

because a SCSI adapter is a standard interface and command set for transferring data between

devices *(Cook – Figs. 3 and 4)* on both internal and external busses.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cook et al. and

Herrod as applied to claim 1 above, and further in view of Goshey et al. (U.S. Patent No.

6,327,613).

As per claim 25, Cook et al. and Herrod teaches the method of Claim 23 as applied to claim 23 above, however, does not teach receiving an I/O request formatted in accordance with an advanced small computer system interface (SCSI) programming interface (ASPI), the ASPI format unsupported by the operating system of the computer system. Specifically, Cook et al. and Herrod teaches a method for processing I/O requests in accordance with an API. Cook fails to teach the use of an ASPI.

Goshey et al. (hereinafter, referred to as "Goshey") teaches a method of receiving an I/O request formatted in accordance with an advanced small computer system interface (SCSI) programming interface (ASPI), the ASPI format unsupported by the operating system of the computer system *(col. 8, lines 41-44; and col. 13, lines 38-42)*.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Cook et al., Herrod, and Goshey because they both teach a method of processing I/O requests in accordance with an API. Goshey's teaching of an ASPI would allow processing of I/O requests despite being unsupported by the operating system of the computer system.

Response to Arguments

Applicant's arguments with respect to *claims 1-25* have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sean Weinman whose phone number is (571) 272-2744. The

examiner can normally be reached on Monday-Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Lee can be reached on (571) 272-3667. The fax number for the organization

where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sean Weinman
Examiner
Art Unit 2115

CHUN CAO
PRIMARY EXAMINER